(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 21 July 2005 (21.07.2005)

PCT

(10) International Publication Number WO 2005/066156 A1

- (51) International Patent Classification⁷: C07D 403/04, 403/14, 401/04, 407/14, 409/14, 413/14, A61K 31/497, 31/4439, 31/506, A61P 37/06
- (21) International Application Number:

PCT/AU2005/000022

- (22) International Filing Date: 12 January 2005 (12.01.2005)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2004900103

12 January 2004 (12.01.2004) AU

- (71) Applicant (for all designated States except US): CY-TOPIA RESEARCH PTY LTD [AU/AU]; Level 5, Baker Heart Research Institute Building, Melbourne, VIC 3004 (AU).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): STYLES, Michelle, Leanne [AU/AU]; Unit 107, 1 Powlett Street, East Melbourne, VIC 3002 (AU). ZENG, Jun [AU/AU]; 4 Hawk Street, Doncaster East, VIC 3109 (AU). TREUTLEIN, Herbert, Rudolf [DE/AU]; 11 George Street, Moonee Ponds, VIC 3039 (AU). WILKS, Andrew, Frederick [AU/AU]; 6 MacFarlan Lane, South Yarra, VIC 3141 (AU). KLING, Marcel, Robert [AU/AU]; 14 Huntley Road, Bentleigh, Victoria 3204 (AU). BU, Xianyong [AU/AU]; 1 Dairy Court, Viewbank, VIC 3084 (AU). BURNS,

Christopher, John [AU/AU]; 3 Browning Street, Seddon, VIC 3011 (AU).

- (74) Agent: BLAKE DAWSON WALDRON PATENT SER-VICES; level 39, 101 Collins Street, Melbourne, VIC 3000 (AU).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- -- with international search report
- with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SELECTIVE KINASE INHIBITORS

$$W \xrightarrow{Q} A \xrightarrow{N} X_1 \xrightarrow{X_2} X_3$$
 (1)

(57) Abstract: A compound of the general formula (I) or pharmaceutically acceptable prodrugs, salts, hydrates, solvates, crystal forms or diastereomers thereof, wherein A represents a variety of six membered nitrogen containing heterocyclic rings, Q is a bond, halogen, C₁₋₄ alkyl, O, S, SO₂, CO or CS and X₁, X₂, X₃ and X₄ are optionally substituted by 9 specific substituents or one can be nitrogen. Compositions comprising a carrier and at least one compound of formula (I) are also provided. Further provided are methods of treating tyrosine kinase-associated disease states by administering a compound of formula (I) and methods of suppressing the immune system of a subject by administering a compound of formula (I).